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PROBLEMS IN THE MEASUREMENT OF EDUCATIONAL TELEVISION CONSUMPTION, PRELIMINARY REPORT NUMBER 4--EDUCATIONAL TELEVISION PROJECT.

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THE SPECIFIC PROBLEM OF THIS REPORT WAS TO EXPLORE THE IN TANCE OF MEASUREMENT ERROR ASSOCIATED WITH COMMONLY USED MEASURES OF EDUCATIONAL TELEVISION (ETV) CONSUMPTION BY VIEWERS. THE AMOUNT OF RESPONDENT MISREPRESENTATION THAT MAY BE INVOLVED IN THE USE OF A PARTICULAR MEASUREMENT TECHNIQUE AND THE REASONS WHY IT OCCURS WERE STUDIED. IN ORDER TO MAINTAIN CONTINUITY WITH PREVIOUS STUDIES, A SUBJECTIVE-ESTIMATE MEASURE OF ETV VIEWING WAS USED. AN AIDED-RECALL TECHNIQUE WAS DESIGNED TO ELICIT PRECISE DETAILS ABOUT RECENT VIEWING BEHAVIOR. A THIRD MEASURE WAS INCLUDED IN A BATTERY OF SEMANTIC DIFFERENTIAL ITEMS. AS A CHECK ON THE ACCURACY AND PRECISION OF THESE THREE INDEXES, THE RESULTS WERE COMPARED WITH THOSE OBTAINED BY AN INDEPENDENT COMMERCIAL RATING FIRM. THIS REPORT DESCRIBED A VARIETY OF INTERNAL COMPARISONS AMONG THE FOUR INDEXES. THE DATA COLLECTED DID NOT SUPPORT THE HYPOTHESIS THAT ONE'S SOCIAL RANK IS ASSOCIATED WITH VIEWING ETV. A SECOND LOOK AT THE RELIABILITY OF MEASUREMENT WAS RECOMMENDED. (JC)

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EDUCATIONAL TELEVISION PROJECT PRELIMINARY REPORT NUMBER 4

problems in the measurement of
educational television consumption
martin meissner • university of oregon • eugene, oregon

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The Institute for Community Studies
Studies in Resistances to Cultural Innovations

EDUCATIONAL TELEVISION PROJECT
PRELIMINARY REPORT NUMBER FOUR

Problems in the Measurement of
Educational Television Consumption

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Issued: November 1, 1961

Acknowledgements

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In a very real sense this report is the result of the efforts not only of the author listed but of all the members of the Project staff. Each of the following has made a contribution:

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By Gary L. Street

INTRODUCTION

Every social researcher approaches the data he has collected with varying degrees of doubt and skepticism. He knows that the interviewers were biased, that some persons selected for inclusion in the sample either were not available or refused to be interviewed, that the manner in which he prepared the interview schedule for punching was not perfect, and so on. If the cumulative effect of these errors is so serious that it renders the data unusable, then the

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INTRODUCTION

Every social researcher approaches the data he has collected with varying degrees of doubt and skepticism. He knows that the interviewers were biased, that many persons selected for inclusion in the sample either were not available or refused to be interviewed, that the coders made errors in preparing the interview schedules for punching onto IBM cards, and so on. If the cumulative effect of these doubts is to be something besides utter despair, then the analyst must suspend some of his reservations for the time being and proceed with his analysis as if it were based on perfect data. Suspension of doubt does not mean that the analyst blandly disregards any and all of those circumstances which might weaken his conclusions. On the contrary, it is one of his chief responsibilities to estimate as accurately as possible the amount of error that has crept into his analysis at various stages. He must accept this responsibility and, at the same time, manage to avoid the mental paralysis which is only too often the lot of the student of social phenomena who is burdened with too keen an awareness of the inadequacies of data collection and analysis.

The present report aims at an exploration of one instance of the problem of measurement error, that which is associated with the application of some commonly used measures of educational television consumption. Such an exploration has two objectives. There is no denying, first of all, the importance of arriving at

some conclusions about the amount of misrepresentation that may be involved in the use of a particular measurement technique. But if this report were to stop there it would be of value only to the highly specialized technician. A second purpose, therefore, would be to discover not only whether error occurs and, if so, the how much, but also to take some steps toward understanding why it occurs. With this end in view the analysis which follows takes a special look at several aspects of the individual television viewer's situation which may have induced him to respond to our measurement attempts in such a way that these attempts fell short of their mark. It appeared at that time to be the comparative.

Our concern here is that when respondents are asked questions designed to indicate the degree to which they are consumers of educational television, they may tend to respond by consistently underestimating their consumption. This problem reared its ugly head in the very earliest phases of the design of our study. Partly for ethical reasons and partly for reasons of convenience, we had decided very early in the game to indicate to respondents that our study was being conducted under the sponsorship of the University of Oregon. Other options were, of course, available. We might have intimated that the study was being sponsored by the independent marketing research firm which actually did conduct our field work. Or we might have claimed to represent the local television cable company from whose subscription lists our sample had been drawn. But since neither of these intimations would have been and robustly story--to be educational because it taught them about scuba diving.

been quite true, and also for the sake of administrative convenience, we decided to be straightforward about our connection with the University.

Once this decision was taken we were immediately faced with the possibility that if our respondents were perfectly aware of the interviewer's connection with the University and of the University's organizational linkage to the state-owned educational television station, then they might well tend to overstate their actual use of educational television out of a desire to tell the interviewer what he wanted to hear. This was especially likely, we thought, in view of what appeared at that time to be the comparative insaliency of educational television in the lives of American television viewers. What steps might we have taken to deal with this possibility?

If our objective had been to arrive at a single best measure of educational television consumption, several different steps might have been taken. For example, we might have carefully avoided the use of a measure which depended, as many such measures do, on the respondent's definition of "educational television."¹ Or we might have designed questions which implicitly threatened the respondent with exposure should he yield to the temptation to exaggerate. As it has worked out, these techniques and others like them have been employed at one point or another in various stages of our research. In the main, however, we rejected the

1. More than one respondent considered "Sea Hunt"—an underwater cops and robbers story—to be educational because it taught them about scuba diving.

"single best measure" approach and decided to employ simultaneously several differently constituted measurements of educational television consumption, hoping to be able to evaluate each on the basis of its relationships with the others.

First of all, in order to maintain continuity with the many informative studies whose results had already been published, we used a subjective-estimate measure of educational viewing which had already become almost standard for the field. Secondly, we developed an aided-recall technique designed to elicit precise details about the respondent's recent viewing behavior. This technique, while costly to administer, seemed undeniably straightforward and free at least of semantic distortions. A third measure was included in a battery of "semantic differential" items. Finally, as a check on the accuracy and precision of these three indices, we compared our results with those obtained by an independent commercial rating firm which had surveyed the local audience during the same period in which our interviewers were in the field.¹ The present report, therefore, describes a variety of internal comparisons among these four indices of educational television consumption.

of the respondents were paying a regular monthly fee of five dollars for their connection to the master antenna.

The interviewers brought with them a complete annotated schedule of all five stations during the week preceding the interview.

1. See L. H. Goldstein, W. T. Martin, and J. H. Shepard, *Educational Television Projects: Preliminary Report Number One, The University of Texas, Austin*, (Unpublished; 63 pp.), for a complete description of the sample and the population from which it

1. See Appendix A

Respondents were asked to go through the listing carefully and to check off all programs they had watched during the past week. They were also asked to mark those programs which for some reason they had not seen the past week but which they usually watch. Only

THE SALIENCY OF EDUCATIONAL TELEVISION

In a field survey of a sample of people subscribing to a master television antenna system, 1,024 residents of the Eugene-Springfield, Oregon area¹ were asked the following question: "We are trying to find out how well people remember the names of stations broadcasting on each of the channels in this area. What television stations can you get here?" The interviewers were instructed to probe for all signs of identification—call letters, channel number, the number of the "cable channel" on the cable connection through which all our respondents received the, then, five stations in the area, or any other characteristic. Over half (57%) of the respondents were unable to identify the state-educational station, KOAC-TV, in any way. All respondents had access, through their cable subscription, to broadcasts from all five stations including the educational station. As evidence of the intense desire of this sample for variety in television programming, it should be noted that all of the respondents were paying a regular monthly fee of five dollars for their connection to the master antenna.

The interviewers brought with them a complete broadcast schedule of all five stations during the week preceding the interview.

1. See M. N. Goldstein, W. T. Martin, and J. R. Shepherd, Educational Television Project: Preliminary Report Number One, The University of Oregon, no date, (Multilithed; 43 pp.), for a complete description of the sample and the population from which it was taken.

Respondents were asked to go through the listing carefully and to check off all programs they had watched during the past week. They were also asked to mark those programs which for some reason they had not seen the past week but which they usually watch. Only one out of every seven (14%) of the respondents checked off one or more of the programs broadcast by the educational station: KOAC-TV.

We can now look at a comparative measure of the saliency of "educational television" and of the local state-educational station: KOAC-TV. Respondents were asked to respond to a battery of semantic differential scales. The battery contains six "objects" (or concepts) which were to be evaluated with a number of seven-point scales for each object. Following is an example:

TELEVISION									
Good	3	2	1	0	1	2	3	Bad	
often watch	3	2	1	0	1	2	3	I never watch	

The 0-point allows the respondent to show that he cannot make an evaluation or distinction along this particular dimension between the two extremes. Recorded as "No Answer" were the situations where the respondent would not mark a given scale at all, or where he could not respond to any of the scales for a given "object" because he felt that he had no basis for evaluation. We can take the 0-point responses and the "No Answer" category as a measure of saliency of these six "objects."

TABLE 1

Objects evaluated	Number of scales	Per cent 0-point responses	Per cent no answer	Per cent 0-point + no answer	N = 100% (1,024 respondents times number of scales
CABLE 4, CHANNEL 7, KOAC	8	32%	22%	53%	(8,192)
EDUCATIONAL TELEVISION	14	24	9	33	(14,336)
CABLE 2, CHANNEL 13, KVAL	8	20	4	24	(8,192)
TELEVISION COMMERCIALS	6	21	2	23	(6,144)
TELEVISION	9	10	1	12	(9,216)
EDUCATION	8	9	3	12	(8,192)

We have noted before that 57 per cent of the respondents could not identify KOAC-TV by either its call or cable channel number or its call letters or in any other way. We now discover that 53 per cent do not find themselves in a position to evaluate the station along a number of dimensions. This proportion is over twice as large as that of the people who could not evaluate KVAL (24%), a station located in the respondents home town. Only a few respondents have difficulty using the scales to react to such general concepts as EDUCATION or TELEVISION 12% in both cases).

THE DISCREPANCY BETWEEN THE EVALUATION OF EDUCATIONAL TELEVISION AND ITS SALIENCE AND USE

Let us now look at the distribution of respondents over three of our semantic differential scales:

TABLE 2¹

Object	3	2	1	O&	1	2	3
Dimension				N.A.			
EDUCATIONAL TELEVISION	78%						
Important	45%	21%	12%	19%	1%	1%	1% Not Important
CABLE 4, Channel 7, KOAC	53%						
Educational	34	11	8	44	1	1	1 Not Educational
CABLE 4, CHANNEL 7, KOAC	49%						
I often watch	3	5	12	29	10	7	32 I never watch

1. N of 1,024 = 100%. Some rows do not add up to 100% because of rounding and the presence of a few not codable responses.

The respondents reacted to the semantic differential scales by circling appropriate numbers on several sheets of paper which the interviewer gave the respondent after explaining how the scales were to be used. The interviewer addressed many other questions directly to the respondent expecting an equally direct, face-to-face, reply. One of these questions was: "Can you tell me what your experience has been with Channel 7, Cable 4, KOAC-TV? Do you find time to watch it regularly, occasionally, or almost never?" In the following distribution of the responses to this question we added two more categories for answers which were not given in the suggested week. In spite of this poor showing, 93 per cent of the respondents let us know, through another semantic differential scale, that EDUCATION is "important."

form: These observations would suggest that there is a discrepancy between the **Regularly** use of education and educational television, on the one hand, **Occasionally** order of saliency, as well as the even lower extent **Almost never**, of educational television on the other.

Let us **Haven't heard about it** of the survey interview. A neatly-dressed **Can't get it** a car size call at a **11** and introduces herself by saying **No Answer** she is from the University **2** and that she **99% (1,024)**

would like to ask some questions concerned with people's television viewing behavior. Here a man of some 40 is being put on the spot and particularly of the local educational station, is low for a sample of television users who subscribe to a five-station cable connection. One third cannot evaluate EDUCATIONAL TELEVISION along a number of dimensions. Over one half could not make distinctions along comparable dimensions for the educational television station, not by a woman, middle-class in appearance, who furthermore and over one half are unable to identify the station by any characteristic. However, over three-fourths (78%—see Table 2) of our respondents claim that EDUCATIONAL TELEVISION is "important" and over one half feel that KOAC-TV is "educational." But less than one quarter claimed "I often watch" KOAC-TV and only a quarter said that they watch KOAC-TV regularly or occasionally. In fact, as measured by the relatively sensitive means of a complete program listing for a week, only one-seventh of the respondents gave any indication of having watched a KOAC-TV program during the past week. In spite of this poor showing, 93 per cent of the respondents let us know, through another semantic differential scale, that EDUCATION is "important."

These observations would suggest that there is a discrepancy between the felt importance of education and educational television, on the one hand, and the low order of saliency, as well as the even lower extent of actual use, of educational television on the other.

Let us now visualize the situation of the survey interview.

A neatly-dressed lady makes a surprise call at a house and introduces herself by saying that she is from the University and that she would like to ask some questions concerned with people's television viewing behavior. Here a man or woman is being put on the spot by being urged to produce information about things that go on in the house as they relate to television, to a thing, one might assume, which is more or less taken for granted and ordinarily not the object of deliberative consideration. He or she is put on the spot by a woman, middle-class in appearance, who furthermore represents the very center of education, of middle-class aspirations for respectability. Chances are (almost nine out of ten) that he or she has not recently seen a program from the television station run by the state system of higher education. There is a fifty-fifty chance that he or she has any notion of what television for educational purposes, as broadcast by that station, might be all about. But there is a fair chance (seven out of ten) that he or she can show that they have some image of what, to them, this thing called "educational television" is like.

What do these respondents, so many of whom are unfamiliar with KOAC-TV, believe educational television, in the form it takes

locally, to be? One way to determine the scope of inclusiveness of the notion of "educational television" in the views of the television audience is to examine in more detail their reactions to the semantic differential. In the following tables four semantic differential scales are related in a number of ways.

TABLE 3				
Important	27%	50%	(792)	
Mid-point and No Answer	40	50	(192)	
Not important	I often watch	Mid-point and No Answer	I never watch	N=100% (28)
EDUCATIONAL TELEVISION				
Important	62%	13%	25%	(796)
Mid-point and No Answer	7	49	43	(192)
Not important	14	25	57	(28)
TABLE 4				
EDUCATIONAL TELEVISION				
Important	35%	17%	48%	(544)
Mid-point and No Answer	46	51	(443)	
Not educational	7	86	(29)	

Respondents (40%) feel that educational television is "important" and also claim they watch it. Too, there are 544 (53%) who feel that KOAC-TV is "educational." But only 192 (19%) claim they watch KOAC-TV and also feel that it is "educational."

TABLE 5

CABLE 4, CHANNEL 7, KOAC-TV

	I often watch			Mid-point and No Answer	I never watch		N=100%
Object	3	2	1	0	1-2	3-4	N
EDUCATIONAL TELEVISION							
TELEVISION COMMERCIALS	5%	2%	18%	32%	43%	1%	(1,024)
Important	23%	8	11	53	27	50	(797)
Mid-point and No Answer	18	21	8	11	40	50	(192)
Not important	18				21	60	(28)

Table 3 shows a pronounced relationship between the importance which respondents attribute to EDUCATIONAL TELEVISION and their claim to watching it. In Table 4 we can see a somewhat less strong relationship between the respondents' opinion of whether or not KOAC-TV is "educational" and their claim to watching KOAC-TV. But as we look at Table 5, it turns out there is very little of a relationship between the importance which respondents attribute to EDUCATIONAL TELEVISION and their claim to watching KOAC-TV. One might tentatively conclude, then, that a comparatively large proportion of people have some kind of notion of what 'educational television' is to them, but that only a few subscribe KOAC-TV, a professedly educational station, under the same notion of 'educational television'. We find that 492 of our respondents (48%) feel that EDUCATIONAL TELEVISION is "important" and also claim they watch it. Too, there are 544 (53%) who feel that KOAC-TV is "educational." But only 192 (19%) claim they watch KOAC-TV and also feel that it is "educational."

TABLE 6

Objects	"Educational"			Mid-point and No Answer		"Not Educational"		N
	3	2	1	3+2+1	0	1+2+3		
TELEVISION COMMERCIALS	5%	9%	18%	32%	21%	46%	(1,024)	
CABLE 2, CHANNEL 13, KVAL	7	18	29	54	30	15	(1,024)	
CABLE 4, CHANNEL 7, KOAC	34	11	8	53	44	3	(1,024)	
TELEVISION	18	31	30	79	12	8	(1,024)	
EDUCATIONAL TELEVISION	47	21	11	79	19	1	(1,024)	

That in the eyes of the audience there is more to educational television than the programs of an educational station is a conclusion that becomes more prominent from the table above. Table 6 shows that three in ten people consider even TELEVISION COMMERCIALS "educational." Even more interesting is the fact that, combining three points toward the "educational" end of the scale together, there is no difference in relative "educationality" between the local commercial station, KVAL, and the educational station KOAC-TV, and no difference between TELEVISION in general and EDUCATIONAL

TELEVISION. (M. W. Martin, W. F. and Shepard, J. M., Educational

We have so far suggested that the researcher is faced with a dilemma: the television audience defines educational television rather differently from the way he sees it. Furthermore, the audience takes no great stock in the intellectual products disseminated by the official television organization. We have also hinted that the respondent is faced with an interviewer who puts him into a dilemma. Even though he has never thought much about

Television in Boston: Monographs 81, in Schramm, W., ed., *The Impact of Educational Television*, Urbana, University of Illinois Press, 1960, p. 51.

television and its educational value he recognizes that education, be it through television or other means, is highly valued in the middle-class culture which dominates his life and aspirations and for which the interviewer, speaking for the University, represents. What attempts are the two parties likely to make to alleviate their dilemmas? Chances are that the researcher tries to salvage as many educational television fans as he can muster from his data. Erving Goffman suggests that, as a rule, people are expected to give credit to the claims made by others when they appear in their presence.¹ One would expect that educational television researchers are no exception and that they are prepared to accept the claims which their respondents make when in the presence of an interviewer. As it turned out in the present research project, the answers to three questions were taken as measures of KOAC-TV viewing, and it was reported that "These measures are strongly related to each other and we feel confident that they are measuring the same behavior."²

1. Goffmann, E., The Presentation of Self in Everyday Life, Garden City, Doubleday, 1959.

2. Goldstein, M. W., Martin, W. T., and Shepherd, J. R., Educational Television Project: Preliminary Report Number One, Institute of Community Studies, Eugene, University of Oregon, p. 11. See also Geiger, K., and Sokol, R., "Excerpts from 'Educational Television in Boston', Report No. 3", in Crary, R. W., ed., The Audience for Educational Television, Research report no. 573, Ann Arbor, Educational Television and Radio Center, October 1957, p. 101, where the authors indicate that they have used the following question exclusively to measure viewing of educational television: "What has been your own experience with Channel 2? Do you watch regularly, occasionally, or never?" In the full report, Geiger and Sokol indicate that they chose the label "fans" for those who had said that they watch regularly or occasionally. They present data which show that being a "fan" is strongly related to the 'occupational level of head of family' and to 'socioeconomic level', Geiger, K., and Sokol, R., "Educational Television in Boston: Memorandum #3", in Schramm, W., ed., The Impact of Educational Television, Urbana, University of Illinois Press, 1960, p. 51.

The three questions have already been presented and will only be briefly recounted. Asked face-to-face, 2 per cent of the respondents claimed they watch KOAC-TV regularly and 23 per cent occasionally for a total of 25 per cent whose claims the researchers were prepared to honor at face value. (Let us call this "Question C.")

In the paper-and-pencil procedure of checking off semantic differential scales, a total of 20 per cent claimed "I often watch" KOAC-TV. (See Table 2. This is "Question B.") Finally, 14 per cent of the respondents checked off one or more KOAC-TV programs on a complete listing of all programs offered by the five stations during the week preceding the interview ("Question A.") The answers to these three questions may have at least in a small measure alleviated the researchers' dilemma of finding enough fans in a universe where they were shockingly scarce. But they also could have solved the respondent's dilemma of facing up to the interviewer. As these dilemmas have their source in the same discrepancy, they may well be solved by the same set of questions. The respondent may be as likely to bank on the rule that the claims one makes in the presence of others are ordinarily believed by one's audience, as the researcher might be to give the respondent the benefit of the doubt.

For programs they had watched, primarily according to time of day and name of program, largely disregarding the station names at the top of the sheets. The choice was here made from hundreds of programs, sketched by the respondent while the interviewer was sitting by quietly.

Having completed this task, the respondent was asked "Has there been any program within the past year from which you feel you have learned quite a bit?"

THE PART PLAYED BY THE RESPONDENT the interview that the respondent was "cued in", as it were. This question was followed by the semantic differential battery, where again the performance of respondents in an interview designed to elicit the respondent answered with paper and pencil, the comparatively large number of 53 items. At this point, however, the focus of and particularly that part of their behavior which precedes, the study became quite clear, as the educational station KOAC-TV, follows, and accompanies the possibility of turning the channel "educational television," "education," and "educational" became selector to number seven (for KOAC-TV). We shall attempt to describe some conditions associated with facing up to the interviewer in different ways and at different times during the encounter and respondent is faced with two other questions. In the first of these, some of the consequences which the respondents' choice of answers he is asked to choose from a list the main and second most important at one time during the interview has for the outcomes of other questions later. In table 7, we show the distribution of respondents recall the distribution of respondents over the answers to over the answers to the three questions concerned with the viewing of KOAC-TV. In sequence, "Question A" was asked first and "Question C" last. When "Question A" was asked, the respondent had not been openly cued in to the central focus of the study—that is educational television in particular rather than television in general. Furthermore, respondents tended to go through the program listing in search for programs they had watched, primarily according to time of day and name of program, largely disregarding the station names at the top of the sheets. The choice was here made from hundreds of programs, skanned by the respondent while the interviewer was sitting by quietly.

Having completed this task, the respondent was asked "Has there been any program within the past year from which you feel you have learned quite a bit?" This was the first time in the interview that the respondent was "cued in", as it were. This question was followed by the semantic differential battery, where again the respondent answered with paper and pencil the comparatively large number of 53 items. At this point, however, the focus of the study became quite clear, as the educational station KOAC-TV, "educational television," "education," and "educational" became prominent words. Before "Question C" is posed, asking whether he watches KOAC-TV regularly, occasionally, or almost never, the respondent is faced with two other questions. In the first of these, he is asked to choose from a list the main and second most important reason why people do not watch educational television. When we recall the distribution of respondents over the answers to questions A, B, and C, we find that the proportion of KOAC-TV "viewers" increases as respondents are increasingly cued in from three questions and named three types whose distribution is here question to question ("Question A": 14%; "Question B": 20%; "Question C": 25%). But it should also be noted that the implied time span is shorter in the first question than in the others.

The three types constitute the bulk of our respondents. In the analysis, the types derived from part I of table 7 will mostly be used rather than those of part II, which will occasionally appear as a reliability check.

TABLE 7

I		II		Type Names
Question A	Question C	Question B	Question	
Watched KOAC-TV last week	Regularly	20	2%	"Fans"
	Occasionally	59	6%	
	Almost never	46	4%	
	Haven't heard	3	0%	
	Can't get	9	1%	
Did not watch KOAC-TV last week	No Answer	4	0%	"Fakes"
	Regularly	4	0%	
	Occasionally	177	17%	
	Almost never	559	55%	
	Haven't heard	19	2%	
	Can't get	99	10%	"abstainers"
	No Answer	25	2%	
		1,024	99%	
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				"abstainers"
				"abstainers"
				"abstainers"
				"abstainers"

We have given those who claim to watch KOAC-TV at least occasionally but who have not checked off any KOAC-TV programs on a week(s) listing the name "fakes." This would seem to indicate that we are no longer prepared to honor some respondents' claims without question. Following are some of the reasons for our choice of a name: In Table 5 we have seen that there is at best only a very slight relationship between importance attributed to educational television and the claims made to watch programs of an educational television station. Let us now see what proportion of those with different opinions on the importance of educational television have in fact watched a KOAC-TV program during one week and

TABLE 6

EDUCATIONAL TELEVISION	% who watched last week	% who claimed they watched KOAC-TV regularly or occasionally	N=100%
"Important"	15%	29%	(795)
"Not important"	21%	11%	(28)

Here it seems that there is a direct relationship between the claims made to watching KOAC-TV and the importance attributed to educational television, but a slight inverse relationship between actual watching and attribution of importance. Not too much confidence can be provided by this table, when the number in one category is as small as 28 and where percentage differences are as

slight as 6, unless support can be found through additional data for what is suggested here.

A very wide range of behaviors have been found in past studies to vary with rankings which are commonly used to distinguish people invidiously from one another. Manner of child rearing and voting, timing of first sexual encounters and the time spent in listening to the radio, time allotted to watching television and many other activities are frequently found to reveal differences which are associated with, for instance, one's occupational status and often also with the ranking of the family by which one has been brought up.

In making use of the term 'invidious' ... there is no intention to extol or depreciate, or to commode or deplore any of the phenomena which the word is used to characterize. The term is used in a technical sense as describing a comparison of persons with a view of rating and grading them in respect of relative worth or value - in an aesthetic or moral sense - and so awarding and defining the relative degrees of complacency with which they may legitimately be contemplated by themselves and by others. An invidious comparison is a process of valuation of persons in respect of worth.¹

One such distinction is that between "white collar" and "blue collar." This distinction is one of selling in the market place one's muscles or one's brains, one's skills or one's upbringing. The skillful use of one's muscles or the clever application of one's upbringing confer upon a man and his family a different station in life in which they are invidiously compared with others. They also make a difference for the image they have of themselves

1. Veblen, Thorstein, The Theory of the Leisure Class, New York Random House, 1934, p. 34.

and which they are likely to present to others, since "only individuals with an aberrant temperament can in the long run retain their self-esteem in the face of the disesteem of their fellows."¹

One might come to expect, then, that behaviors concerned with the use of educational television would also vary with one's invidious ranking; and since people of a higher occupational status are likely to have had more schooling than others, one might expect that one would find substantially more viewers of educational television among people with a higher than among those with a lower occupational status. This expectation is tested in the following tables:

TABLE 9²

Occupational ranking of head of household	Watched KOAC-TV last week		Did not watch KOAC-TV last week		N=16
	Say they watch regularly, occasionally ("Fans")	Say they never watch, haven't heard, can't get	Say they watch occasionally ("Fakers")	Say they never watch, haven't heard, can't get ("Abstainers")	
Professionals & businessmen	8%	6%	22%	62%	(398)
Clerical, sales & kindred	6	5	13	73	(161)
Craftsmen	7	4	17	69	(133)
Non-craft workers	8	7	15	66	(197)

1. Ibid.

2. The occupational classification excludes 133 respondents who did not answer the occupational question or who neither are or have been in the labor force. Married women were classified according to their husbands' occupation, all others according to their own. Respondents or respondents' husbands who are retired, as well as deceased husbands, were classified according to their previous occupation. The table was also prepared with retired people excluded, but the percentages remained virtually unchanged. Percentages do not add up to 100 because we have not shown the per cent of "No Answers" on "Question C" and the four respondents who did not watch KOAC-TV but said they do "regularly."

Table 9 shows that being what we have called a "fan" is not at all associated with one's occupational ranking. There is also no variation among those who have checked off at least one KOAC-TV program on the program listing but who say they never watch, haven't heard about it, or can't get it. This would lead one to believe that the presence of cases in the second column of the table is due to measurement error. In the marking-off of program names from a list of several hundred, the occurrence of a certain amount of fairly evenly distributed error would seem plausible.

There is a difference of small magnitude between "professionals and businessmen," on the one hand, and all others, on the other, among the two categories of people who have not watched any KOAC-TV programs last week. The chances that people with the highest invidious ranking make, possibly somewhat unwarranted, claims to watching KOAC-TV occasionally, are slightly greater than those of others. Conversely, their chances of admitting that they do not watch it are slightly smaller.

One fourth of those who have not watched KOAC-TV and claim they do occasionally. One fourth of those who have not changed their higher social position from those of their parents are not in

The occupational classification includes 715 respondents whose fathers had farm occupations, and 195 respondents for whom sufficient information was lacking for full classification. Father's occupational rank is classified by the respondent's father's occupation, never by the spouse's. The respondent's rank was classified as in Table 7. The reason why percentages do not add to 100 is the same as given in Table 9.

TABLE 10¹
 Watched KOAC-TV last week Did not watch KOAC-TV last week N=100%

Father's occupational rank	Respondent's occupational rank	Say they watch regularly, ("Fans")	Say they never watch, haven't heard, can't get	Say they watch occasionally, ("Fakes")	Say they never watch, haven't heard, can't get	
White Collar	White Collar	10%	6%	25%	56%	(222)
Blue Collar	Blue Collar	7	5	19	66	(146)
Blue Collar	White Collar (upwardly mobile)	6	5	18	69	(177)
White Collar	Blue Collar (downwardly mobile)	7	6	4	78	(69)

In Table 10 we are comparing respondent's according to their current invidious ranking as well as that of the family in which they were brought up. Again, we find no difference to speak of among the "fans." Whether people watch the programs of an official educational station and are aware they do seems to be unrelated to their station in life. We find, however, a difference among those who have, presumably, not watched KOAC-TV and claim they do occasionally. One fourth of those who have not changed their higher social position from those of their parents are apt to

1. The occupational classification excludes 215 respondents whose fathers had farm occupations, and 195 respondents from whom sufficient information was lacking for full classification. Father's occupational rank is classified by the respondent's father's occupation, never by the spouse's. The respondent's rank was classified as in Table 9. The reason why percentages do not add to 100 is the same as given in Table 9.

present themselves to the interviewer in a light acceptable to the expected middle class evaluations. But only as few as four out of a hundred of those whose rank has declined from that of their parents are bothering to put up a respectable front.

Working-class people with working class parents, as well as the upwardly mobile, fall between the two categories just discussed. The fact that the downwardly mobile are least likely to make apparently unjustified claims would seem contrary to expectations one might have from studies of political identification. From these studies it appears that the downwardly mobile will tend to cling to their identification as adherents to the Republican party, an identification appropriate to the white collar world from which they came.¹

Two points could perhaps be made to question the differences in the proportion of people we have called "fakes." The first point consists of the fact that the behavior of the downwardly mobile seems against expectations. Secondly, it is possible to argue that the presence of respondents who have not checked off any KOAC-TV programs on the program listing but who claim to watch it occasionally might be as much a matter of measurement error as the reverse situation we have already discussed.

1. see Cahill, E. S., Some Determinants of Intergenerational Change in Party Identification, Unpublished Master's Thesis, Eugene, University of Oregon, 1961; and Lipset, S. M., Political Man, Garden City, Doubleday, 1960. Cahill calls this behavior of the downwardly mobile one of "inhibitory socialization", and Lipset "retroactive orientation", both in contrast to the "anticipatory socialization" of the upwardly mobile.

Two counterpoints can be made which reduce the likelihood that this is a simple case of measurement error. Looking at tables 9 and 10, we find that there are no differences of any size among people who say they never watch KOAC-TV, haven't heard about it, or can't get it, and who have in fact checked off a KOAC-TV program on the program listing. We have already discussed this in conjunction with Table 9 and find it confirmed in Table 10. In contrast there are substantial differences among the "fakes." If this is a matter of measurement error, one should expect it to be relatively evenly distributed among the different occupational strata, and we find that it is in the first case, but not in the second. Secondly, if the error is a function of the difficulty of correctly responding to a question, it would appear rather implausible that this is much more likely to happen to professionals and businessmen (Table 9) and to white-collar people with white-collar parents (Table 10). It seems reasonable to assume that these are the people whose occupational status requires of them the ability to manipulate symbols and to be more effective in communication with others than members of less prestigious occupational categories.

In order to check the second point of doubt, we present Table 11 which will enable us to see whether the same relationship holds when other questions are used to deal with a comparable circumstance. If we should find that the same unexpected relationship to social class background is approximated by other data, we would tend to conclude that this behavior differs from political identification.

We should then have some tentative grounds for generalizations about people who use the educational television research interview as a means of presenting themselves in a favorable light to a university interviewer.

TABLE 11

Father's occupational rank	Respondent's occupational rank	EDUCATIONAL TELEVISION	EDUCATIONAL TELEVISION	EDUCATIONAL TELEVISION	KOAC-TV	KOAC-TV	N=100
		"I often watch"; Checked off no programs in category INFORMATION NEWS (a)	"I often watch"; Checked off no programs in category INFORMATION DISCUSSION (b)	"I often watch"; Checked off no programs in category INFORMATION CLASSROOM (c)	"I often watch"; Checked off no programs of KOAC-TV (d)	Occasionally; Checked off no programs of KOAC-TV (e)	
White Collar	White Collar	8%	16%	44%	19%	25%	(222)
Blue Collar	Blue Collar	6	10	41	13	19	(146)
Blue Collar	White Collar (upwardly mobile)	4	12	44	8	13	(177)
White Collar	Blue Collar (downwardly mobile)	3	9	38	6	4	(69)

Those categorized in Column (e) to the far right of Table 11 are the "fakes" of Table 7-I, and the proportions shown are the same as those shown in Table 10. Column (d) are the "fakes" of Table 7-II which, as we proposed, can be used as a reliability check similar to the one we are presenting here. The questions

used for columns (a), (b), and (c) are quite independent of those of (d) and (e). These are respondents who, on a semantic differential scale for EDUCATIONAL TELEVISION marked any one of the three points toward the "I often watch" end. But they did not check off any of the programs which we have classified as "Information - News" programs (a), "Information - Discussion" programs (b), and "Information - Classroom" programs (c) regardless of the station on which they appeared. Here we have assumed that, of the fourteen program types of our classification of all programs offered during that week,¹ these three come closest to what might in some sense also be called "educational" programs. For purposes of comparison with our first measure (e), we have now four other measures for behaviors in the interview situation which would seem to have some similarity. These are all people who claim to watch educational television but who did not watch programs during the last week which, by our classification, can be called educational in one sense or another. As it turns out, approximately the same relationship is found here as before. That is, the non-viewers in category (a), (b), or (c) are similar to the "fakes" (d or e) in that their claimmaking seems to be a function of social mobility.

If these responses are the product of the peculiar interview situation and of the respondents' social standing, one might speculate that the relationships found so far could equally well be explained by variance in interviewer characteristics. Before the interviewers

1. See John R. Shepherd, "A Study of Some Aspects of KOAC-TV Programming and Its Audience," ETV Project Preliminary Report Number Two, Eugene, 1961, pp. 22-26.

went out, they were asked to fill out a questionnaire containing some of the questions they were to ask the respondents. One of these questions was: "Have you done any of the following things during the past month (used the library, attended a concert, gone to a lecture, bought any classical records, bought a book)?" We have a record for each respondent of whether he or she was interviewed by an interviewer who had claimed to have performed none or any from one to five of these high-brow activities. We have already seen that the difference between pretence and performance varies with one's occupational status and mobility. We will, therefore, separate each of these four categories of invidious ranking by whether or not the interviewer had claimed to have done any of the five things listed above.

TABLE 12

Father's occupational rank	Respondent's occupational rank	% "Fakes I"		% "Fakes II"	
		Interviewer claims any number of high-brow activities	Interviewer does not claim any high-brow activities	Interviewer claims any number of high-brow activities	Interviewer does not claim any high-brow activities
White Collar	White Collar	24% ((176)	28% (46)	27% (176)	13% (46)
Blue Collar	Blue Collar	22 (108)	11 (38)	14 (108)	11 (38)
Blue Collar (upwardly mobile)	White Collar	18 (141)	17 (36)	12 (141)	17 (36)
White Collar (downwardly mobile)	Blue Collar	4 (52)	6 (17)	8 (52)	12 (17)

Any sizable effect of the interviewer's high-brow characteristics can only be found in measure I in the stable blue-collar category, and in measure II in the stable white-collar category. These differences are in the direction one would have expected, namely that interviewers who claim certain "intellectual" characteristics for themselves might influence respondents to exaggerated claims with respect to educational television. All other differences are too small to indicate any relationship. But it turns out that the previously discussed relationship between status or mobility and "faking" on measure II are substantially changed when respondents are separated by the claims their interviewers have made. As can be seen in column (d) of Table 11, the percentages for the four status and mobility groups range from 19 to 6. But when interviewed by a "high-brow interviewer" the range increases to 27 to 8, and when interviewed by a "low-brow interviewer" decreases to 13 to 12. Thus the initial difference among status and mobility groups becomes more pronounced when respondents are interviewed by "high-brow interviewers" and practically disappears when a "low-brow interviewer" asks the questions. Although the comparisons we have made are not entirely conclusive, they are suggestive of the possibility that certain characteristics of the interviewer, in interaction with certain characteristics of the respondent, have differentiating effects on the probability that respondents will attempt to present themselves in a favorable light.

The kind of formal education one has received is, of course, associated with one's invidious rank as measured by occupation.

Among our four categories of occupational status and mobility, the proportions of those who have gone to college are 73 per cent for people with current white-collar rank and white-collar background, 16 per cent for people from blue-collar families and now of blue-collar rank, 40 per cent for the upwardly mobile, and 26 per cent for the downwardly mobile. Does the kind of education received shed additional light on the differences in occupational status and mobility?

TABLE 13

Father's occupational rank	Respondent's occupational rank	"Fans"		"Fakes"		"Abstainers"		N = 100%	
		Col-lege	Less than col-lege	Col-lege	Less than col-lege	Col-lege	Less than col-lege	Col-lege	Less than col-lege
White Collar	White Collar	12%	7%	28%	19%	53%	63%	(163)	(59)
Blue Collar	Blue Collar	4	7	26	17	57	68	(23)	(122)
Blue Collar	White Collar (upwardly mobile)	1	2	21	14	61	75	(70)	(104)
White Collar	Blue Collar (downwardly mobile)	17	4	6	4	67	82	(18)	(51)

Table 13 shows that with certain exceptions, the college educated are more often "fakes" and less often "abstainers" than the non-college respondents. Education, however, makes no difference for "faking" and makes a great deal of a difference for watching among the downwardly mobile. On the other hand, education

makes little difference to "fans" among those who have not changed their social position from that of their parents. regardless of whether they are of white-collar or blue-collar standing. In general, while education is consistently related to whether one does not watch the educational station and admits it, the effects of education on whether one pretends to watch or in fact watches and knows it depend in varying degrees on where one stands in the order of invidious comparisons.

When we compare this table with Table 10 we find that the presence and direction of differences found there are largely maintained. Regardless of education, "faking" declines as one goes down the table, "abstaining" increases, and being a "fan" makes no difference at least for those with less than a college education. It is, then, among the college educated "fans" where differences appear which were not apparent in Table 10. Here, college educated stable blue-collar people are least likely to be "fans," the downwardly mobile most likely. White-collar people are in-between and display no differences associated with their upbringing.

We know that one's family of procreation, together with one's current status, makes quite a difference among those who do not watch the educational station. It would be of some interest to see whether the invidious rank in which our respondents' spouses found themselves when being brought up will affect the relationships we have found.

TABLE 14

Respondent's Father's occupa- tional rank	Respondent's occupational rank	"Fans"		"Fakes"		"Abstainers"		N = 100%	
		Spouse's Father		Spouse's Father		Spouse's Father		Spouse's Father	
		White Collar	Blue Collar	White Collar	Blue Collar	White Collar	Blue Collar	White Collar	Blue Collar
White Collar	White Collar	11%	7%	25%	26%	55%	56%	(115)	(43)
Blue Collar	Blue Collar	0	7	16	19	68	66	(25)	(58)
Blue Collar	White Collar (upwardly mobile)	9	4	20	14	65	74	(45)	(72)
White Collar	Blue Collar (downwardly mobile)	9	8	4	4	69	77	(23)	(26)

It appears that the upbringing of one's spouse has very little to do with one's behavior toward educational television or toward the educational television research interviewer. Moreover, the initial relationships are almost completely maintained. There is one exception. There are no "fans" among the stable blue-collar people with spouses who were brought up in white-collar homes. We have already seen in Table 13 that stable blue-collar people with a college education were the least likely to be "fans" among the college educated. It is conceivable that a large proportion of both of these cases are identical respondents. But we will not pursue this exception any further. By and large, there are still no differences according to one's current and past social position

among those we have called "fans" of educational television, and noticeable differences among the "abstainers" and "fakers."

We will now turn around and ask whether people who behave like "fans," "fakers," or "abstainers" in the face of one set of questions will display differences in behaviors toward other questions. Very particularly, we are interested in finding out to what extent pretenses made for the benefit of the interviewer will persist as questions focusing on educational television continue to be asked and become more pointed.

We have already described the sequence in which the questions with which we are here concerned were asked. We will now introduce two further questions. One might recall that respondents were first made aware more fully of the "educational" focus of the interview in the course of a battery of semantic differential scales. There followed a number of questions quite specifically concerned with educational television and the educational station, KOAC-TV. The last of these questions was whether people watched KOAC-TV regularly, occasionally, or almost never. Following that question was one concerned with the extent to which the respondent's spouse watched KOAC-TV, and then the following question was posed: "How do you like the programs on KOAC-TV compared with those on other channels?" At the beginning of this sequence of questions, i.e., in the semantic differential battery, we asked a similar, but less pointed question in the form of the scale "I like - I dislike" CABLE 4, CHANNEL 7, KOAC-TV. In table 15 we will only look at people who on this question claimed they "liked" KOAC-TV.

Separating these respondents by our three types, we will see to what extent these three types of respondents maintain their initial claim of "liking" the educational station when it comes to comparing one's likes for the programs of this station with one's preferences for the programs of other stations.

TABLE 15

How do you like the programs on KOAC compared with those on other channels?	CABLE 4, CHANNEL 7, KOAC-TV					
	Fans I Fakes I Abstainers I			Fans II Fakes II Abstainers II		
Like KOAC better	23%	9%	7%	24%	10%	6%
Like others better	9	22	18	12	21	18
Like both equally	26	20	5	22	18	6
They can't be compared	41	47	59	38	44	61
Never watch KOAC	0	0	1	0	0	1
No answer	2	2	11	3	7	7
	(66)	(123)	(123)	(99)	(126)	(124)

Notice that in Table 15 we have changed our procedure. Before, we have asked ourselves "What are the differences in conditions preceding the asking of certain questions in the interview which

account for variation in the chances that respondents will behave in a certain way in reacting to these questions?" We are now saying "Here we have three types of people whom we have seen behave in different ways; what consequences do these behavioral differences have for the choices respondents make among answers to other related questions?" While comparisons in previous tables were appropriate in the vertical direction, they are now being made across the table. One might also notice that we have presented our types in the two ways (I and II) first shown in Table 7, that the numbers and differences in the two halves of the table are almost identical, and that we can therefore have some confidence that the differences which appear here are not too likely to be due to errors of measurement by one particular question.

Looking for the moment at the framed parts of the table, we find that approximately one fourth of the "fans" are prepared to uphold their initial, more general, statement of, "I like" KOAC-TV even when it comes to saying "I like KOAC better." In contrast, less than one tenth of the "fakes" and of the "abstainers" are ready to go that far. Similarly, only about one tenth of the "fans" change their minds so radically as to say that they like other programs better, while approximately one fifth of the "fakes" and "abstainers" do so. When it comes to sustaining a first claim for the purpose of making a favorable appearance, the "fakes" come to behave very much like "abstainers" and quite unlike "fans." This finding would seem to support our contention that not all people who say they watch the programs of an educational station

are bona fide viewers, but that to some the answer to a question is a way of alleviating the discrepancy between a value favored by the respectable and the absence of performance compatible with that value.

SUMMARY

Researchers measuring the audience for educational television have largely been content to take the respondents' word for the amount of educational television they watch. Regardless of what particular amount the respondent has in mind when he says he watches regularly, or occasionally, or almost never, the researcher quite reasonably imputes to these answers an order which is implied in the meaning of those words: Regularly is more than occasionally, and occasionally is more than almost never. In this study, two additional measures have been used. One has taken the form of a seven-point semantic differential scale which provides the respondent with a greater number of gradations and an opportunity for avoiding a determinate answer by way of the mid-point and an offered "no answer" category. Another measure consisted of a complete program listing of all the available TV fare for a week. We have pleaded that this last measure is more sensitive and more accurate than the other two.

We have reported here some discrepancies between the last-mentioned device for measuring educational television audience and the first two. It was implied that these other two measures were similar in that there did not seem to be the same kind of

discrepancy between them. Of these two, the one asking whether the respondent watches programs of an educational station regularly, occasionally, or almost never, is a question reported in other educational television studies as the only or main measure used. In our sample, only two per cent of the respondents said they watch regularly. Of these 24 people twenty had also checked off a program of the educational station on the complete listing. Of the 141 people who checked off at least one KOAC-TV program, 14 per cent said they watch it regularly and 42 per cent occasionally. Of those who did not check off a KOAC-TV program, less than one half of one per cent said they watch regularly and 20 per cent said occasionally.

It would seem reasonable to assume that the probability of people having quite recently watched a KOAC-TV program is high indeed if they check off one or more KOAC-TV programs on a complete listing. Among the choice of answers to the direct question, the statement about watching KOAC-TV "occasionally" has the highest chance of being selected by people who, according to what we have just said, are very likely to have watched a KOAC-TV program recently (42%). Chances are much less that people will choose this answer if they are not very likely to have watched recently (20%). It is, of course, quite possible that people who say they watch it occasionally have done so at some time prior to last week and over an undetermined period. From what we have reported so far, however, it would seem plausible that those who have checked off KOAC-TV programs on the program listing and who say they watch

it occasionally are more likely to be "viewers" (or "fans") of programs from the educational station than are those who also say they watch occasionally but have not checked off a KOAC-TV program on the listing.

This report has been an attempt to suggest that people who say they watch the products of an educational station occasionally may not all be of the same kind. We have presented some data which make it appear plausible that some people have less grounds for this claim than others and that, perhaps, there are qualitative differences associated with variations in the definition of the situation in which a respondent finds himself when facing an interviewer.

In the past educational television research found large differences between the proportion of educational television "fans" coming from different social strata¹ when being a "fan" is measured by the most frequently used direct question (c). In this report, we have shown that the proportion of "fans" among different occupational categories, for those whose answers offer some degree of reliability because they respond as "fans" on all measures of that factor, is the same. Our data would hardly give much reason to believe that one's social rank is associated with one's likelihood of watching educational television. But we do find such differences among people whose claim to being educational television viewers is of somewhat more doubtful standing. We have then suggested the possibility that the educational interview may burden people

1. Geiger and Sokol, op. cit.

with taking a position on a widespread dilemma between a commonly high evaluation of "educational television" and its low degree of salience and use. The manner of coping with this dilemma facing the respondent in the interview is likely to vary with certain conditions present in the situation. Some, of course, have nothing to fear; they are watchers of educational television and can satisfy the interviewers most rigorous questions. Most will presently admit that they are not viewers and some will try to present themselves to the interviewer in a favorable light, although they have not much to show for it.

This has been an argument in plausibility, an argument which offers some data in its support but cannot claim more than to raise doubts which should cause researchers concerned with the audience of educational television to take a second look. This second look would be directed to the reliability of measurement of the size of the audience and to the possibility that differences in the attribution of worth by one's fellow men may not explain variations in viewing educational television.

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Appendix A

A Comparison of Two Techniques of Measuring Television Viewing

The American Research Bureau (ARB) conducted a market survey of television viewing in the Eugene-Springfield area during the Month of March, 1961. At the same time, though not by design since we did not become aware of the ARB field study until ours had been completed, the Educational Television Project was also out in the field administering a second wave of questionnaires which included a measure of television viewing. This measure of viewing was described in the body of this report as the "Program Guide."

A Comparison of Two Techniques of Measuring Television Viewing

A comparison of the two techniques is being presented. If they agree consistently, even though two radically different techniques were used, the conclusions of each will be reinforced.

Unlike the Program Guide, the ARB reports data only for the major network stations--KXII (ABC), KVAL (NBC), KOTV (CBS). The other local stations (including KOAC-TV) were grouped together rather than individually reported. The ARB report also published an Average Sets in Use (SIU) figure, which is an average over all stations in the area, and which will be reported in a table alongside of similar data from the Program Guide. The object of this Appendix is to report these data and to make relevant comparisons.

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Measurement Method: The information in the ARB report is derived through the use of family-viewing diaries. The sample families selected are contacted by telephone and diaries are placed by mail several days ahead of the survey date. On the day before

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this date the diary homes are contacted by ARB Interviewers who make certain the families understand the diary's purpose and how to keep it. Several days later the families are again contacted to make sure no difficulties have developed. Special effort is made to obtain information from families in the sample who are away during the diary week. In this way the fact that their sets were not in use can be taken into account in the ratings. These diaries reflect all viewing by all members of the family at the time the viewing is being done.

The information for the Educational Television (ETV) study was obtained in a face to face interview employing the process of aided recall. The subjects were asked to recall, with the aid of a copy of all programs shown on all stations the previous week (the Program Guide) the programs they had viewed. This data therefore does not reflect viewing by all members of the family at the time the program was viewed. It required the respondent to recall as much as seven days previously, the viewing which he or she engaged in. Another difference is that the ARB viewer was required to report by quarter-hour periods whereas our respondent was required to report viewing by half-hour periods.

The Sample: ARB sample homes are selected through the use of probability sampling in the market survey area as defined by ARB. "This selection method insured that sample locations are chosen in such a way as to represent every rural and urban telephone home in the area having a television set, regardless of location, type of set, or other factors." The sample size (i.e. the total tabulated diaries for the ARB report) is 323.

For the ETV study, the sample is a probability sample of the people on the billing list of the A-bar TV Cable Company as of one year before the March, 1961 survey. A printed duplicate of their current billing list was used, and it was only necessary to number the cards, decide on a sampling rate, pick a starting number from the table of random numbers, and proceed down the list from the starting number removing every Nth card. An original sample of 1504 was taken, and a total of 1024 interviews were obtained. The following year (March 1961) a second wave of interviewing was done with this same sample broken down into four groups: one experimental and three control groups. One of the control groups, consisting of 34 persons who were neither interviewed at Time 1 nor mailed weekly program schedules as part of an experiment conducted in the intervening period, has been used for this report. This group is made up of 16 males and 18 females.

Analysis: The index used in this report will be the Average Sets-In-Use (SIU) data. This is a simple average of the total number of sets on during a particular time period and over a particular combination of days.

The comparisons given in Table One are according to day or days included and the time interval covered. Differences are also given by subtracting the ARB results from the ETV results.

TABLE 1: Average Sets-In-Use

Time Interval	DAY(S)								
	Monday-Friday			Saturday			Sunday		
	ETV	ARB	D*	ETV	ARB	D*	ETV	ARB	D*
9AM-12 noon	12.9	12.7	+0.2						
noon-3PM	19.4	20.1	-0.7						
3PM-6PM	12.6	27.8	-15.2						
6PM-10PM	48.2	59.7	-11.5	46.5	59.6	-13.1	57.6	60.8	-3.2
10PM-midnight	30.3	28.9	+1.4	29.4	34.5	-5.1	40.6	31.0	+9.6

D = ETV - ARB

We would expect these differences to be consistently in the negative direction. That is, we would expect the ETV report to consistently under-report the results given by the ARB report for these reasons: (1) Aided recall, as it was employed in our study, is a less efficient means of measurement than is the diary method, because our respondents were required in some cases to remember behavior which took place as much as a week previous to the interview, whereas the diary entries were made at the time of decision; (2) Our interviews were quite long, and in order to curtail their length it is possible that some respondents may have (a) been careless about his recall due to a lack of motivation, and/or (b) consciously checked fewer programs than actually viewed; (3) A large percentage of the programs on television are of the violent type, and the respondent may have some qualms about telling educators that he or she watches as much violent subject-matter

as he actually does. This may be balanced, of course, by the possibility that some people may become unmotivated at times to report every program they watch every fifteen minutes, as is necessary in the ARB diary method.

On the other hand, there is a good reason to expect a higher Sets-In-Use score among the ETV sample. Since the ETV report is based on cable subscribers only, and ARB reports on both cable and non-cable people, the ETV people have available for their viewing a greater variety of programs and may therefore watch more.

Results: In general the hypothesis is supported by the data, particularly for the Monday through Friday periods. There is no way of testing, at present, whether or not the results are statistically significant. An interesting thing occurs for the 3 to 6PM period and for the 6 to 10 PM period. In both of these periods there is a gross under-rating by the ETV study in comparison with ARB. This may be explained in the following manner: The difference in the 3 to 6PM period may be due to the fact that our respondents were adults, and the programs in that period are largely directed at the younger set. The ARB report would pick up this viewing since everything viewed by anyone in the family was marked in the diary.

The differences in the 6 to 10PM period might be explained by the observation that the content on the programs in that time period is largely of a violent nature, and the respondent may be reluctant to report this type of behavior to educators from the University. Both of these notions can be tested at least by inference.

The results for Saturday and Sunday are similar to those for the 6 to 10PM period on weekdays and also may be explained if there are more violent programs on Saturday and more education, or at least non-violent (i.e. "acceptable") programs on Sunday.

What remains to be done is to test the hypotheses that there are more child-oriented programs in the 3 to 6PM period than there are other types of programs, and that people were reluctant to tell us that they watched as many violence laden programs as they actually did. If these beliefs prove valid then the differences, both during the weekday evenings and the week end, between the ARB and the ETV data are due, not to the inherent weakness of either measure but to the difference in population from which the samples were drawn (i.e., with and without children) and the difference in the interview situation produced by educational as opposed to commercial sponsorship.

The American Research Bureau not only publishes Average Sets-In-Use figures for the three stations representing the major networks, but also publishes individual Metro Ratings (MR) of each program for every fifteen minute period of broadcast time. A Metro Rating reports the percentage of television homes reached by a program during the fifteen minute period and is rounded off to the nearest whole number. That is, the number of homes in which a particular program is being watched, divided by the sample size and multiplied by one hundred. We shall refer to this as the MR of a particular program; MR_{etv} will be read "metro rating of the particular program as rated with the Education Television Study (ETV)"; MR_{arb} will denote the rating of the ARB survey.

We noted earlier that, owing to differences in method of collecting data, children were not allowed to report their TV viewing in the ETV survey. To test the hypothesis that there are more child-oriented programs between three and six PM, and that this results in a lower SIU value for our sample for that time period, we must do two things. First, we should examine the program Guide and make a count of the respective types of programs in this time period and determine the percentage of child-oriented programs with respect to other types of programs. This may be compared with a like analysis of programs in other time periods for purposes of validation. But this alone would not substantiate the hypothesis; we cannot say that adults watch these child-oriented programs less than do children without further analysis. Specifically, we must show that our sample of adults do not in fact view these types of programs. It follows that we should compare the MRetv figures with MRarb figures for a number of child-oriented programs. If our adults do not watch these programs then the MRetv will be less than the MRarb. If both of these things hold, then the major hypothesis will be substantiated.

It turned out that we could not do this: In examining the program guide it was found that our judgment of the child-oriented program was too conservative, and that the shows we included were directed to pre-school or otherwise very young children. This was done necessarily because programs which appeal to older children, (i.e. up to sixteen years of age, below which the ARB calls a person a child) also appeal to adults, and for our purposes we

we desired to separate the men from the boys. Therefore, this sort of content analysis could not give us enough programs for purposes of comparison.

The next best thing is to do this: We must hypothesize that children have control of the TV set between the hours of three and six PM more than any other time interval. The ARB gives number estimates (in hundreds) of men, women, and children viewing particular programs. For our purposes, men and women were grouped into a category called adults (logically enough) and the percentage of children viewing, of the total number of people viewing, was computed. These percentages are given in Table II. They are not as valid a criteria as they would be if they were computed from the actual base total of possible sets in use, but they are parsimonious and certainly related to the more valid percentage, and give a good indication of the direction those percentages would take, if not the magnitude.

TABLE 2
Percentage of Viewers who are Children

Time Periods	Percentages across	N's
9AM - 12 noon	26.6%	1,164
12 noon - 3PM	28.6	1,901
3PM - 6PM	55.4	3,229
6PM - 10PM	26.4	11,612
10PM - 12 midnight	9.8	2,123

Table 2 indicates, albeit not conclusively, that children not being able to report their viewing because of the ETV study sample leads to lower SIU figures for the period from three to six PM. Our explanation does seem plausible, since the kids get out of school at about this time, and probably have control of the TV set until dad gets home at six.

This leads to a discussion of the discrepancy in the comparative SIU figures for the time period between six and ten PM. We will attempt to substantiate the hypothesis that in light of the fact that between the hours of six and ten PM on Monday through Friday the content of the programs can be typified in general as "violent", and our respondents will be reluctant to tell us that they watch as much as they actually do. The question arises as to whether or not this is conscious or unconscious reluctance. But this is no concern here since we do not hypothesize that there will be "liars"; only that the self-report will differ from the diary method because of a general stigma against reporting a great amount of violent viewing in a face-to-face situation to interviewers representing themselves as agents of the state university. The American Research Bureau is clearly a commercial firm, and unlike the University, some of its respondents may interpret the ARB as the agents of the sponsors. That is, a bias the reverse of the one faced by University interviewers, may be facing the ARB. Accordingly we made an analysis similar to the one made of children's program viewing. We compared MR's for various programs which we grouped into three categories according to content: Violent,

Informational-Educational, and Variety. These programs and their respective MR's are reported in Table 3. Diagonal lines indicate the program was one hour long; the number at the left of the diagonal being the MR for the first half hour, and the number at the right being the MR for the second. Standard distance figures are also given indicating the spread of the scores. In the "Violent" category, all cases with the exception of one are in the direction hypothesized. (The discrepancy may be due to the fact that the star of "Have Gun - Will Travel" is a "cultured" gunslinger; continually regurgitating all sorts of thought provoking quotations.) The Educational-Informational category was included because it was thought that our respondents might over-report their viewing of educational material for the same reason that they under-reported their behavior in viewing violent programs. In some instances the differences are in both directions, and in others there is very little difference at all. The differences, although small, are in both directions indicating that perhaps ETV people do report their actual viewing. There are a couple of ways this could be explained: If we conclude that there is really no difference, it may be because of the "status" of ETV in this area. That is, other studies of our sample have shown that there is hostility toward ETV in general in Eugene. If this is actually the case, our respondents, although apprehensive about indicating a great amount of viewing of violent-content programs, may not at all be concerned about giving a true indication of their ETV viewing behavior in a measure of this sort if the norms of the society uphold them even in the face of educators.

TABLE 3
Metro Ratings and Differences:
For Individual Programs in Content Categories

CONTENT	MRetv	MRarb	D	Day	Time	Station
VIOLENT:						
Peter Gurn	12	14	-2	Mon.	10:30	KEZI
Outlaws	12/21	34/34	-16/-13	Thurs.	7:30	KVAL
Untouchables	10/15	23/19	-5/-4	Thurs.	9:30	KEZI
Manhunt	6	27	-21	Fri.	7:00	KVAL
Have Gun-Will Travel	32	18	+14	Sat.	9:30	KOIN
Standard distance = 13.1 Ratio of negative to total D's = 6/7						
EDUCATIONAL-- INFORMATIONAL:						
Huntley-Brinkley	18	34	-16	Wed.	6:00	KVAL
Focus	12/12	9/8	+3/+4	Tues.	10:00	KVAL
Great Decisions	0	1	+1	Sun.	1:30	KOIN
Meet the Press	21	26	-5	Sun.	6:00	KVAL
20th Century	3	2	+1	Sun.	6:30	KOIN
Face the Nation	9	3	+6	Thurs.	10:00	KOIN
Washington Conversation	0	1	-1	Sun.	10:00AM	KOIN
Challenge/Berstien	0	7	-7	Sun.	4:00	KOIN
Huntley Report	21	24	-3	Sun.	5:30	KVAL
Winston Churchill	9	8	+1	Sun.	10:30	KEZI
Standard distance = 6.1 Ratio of negative to total D's = 5/11						
VARIETY:						
Lawrence Welk	21/15	15/24	+6/-9	Sat.	9:00	KEZI
Ed Sullivan	15/18	12/17	+3/+1	Sun.	8:00	KOIN
Chevy Show	24/18	12/17	+5/-1	Sun.	9:00	KVAL
Jack Parr	3	9	-6	Tues.	11:30	KVAL
Garry Moore	15/18	11/13	+4/+5	Tues.	10:00	KOIN
People are Funny	32	27	+5	Sun.	6:30	KVAL
Standard distance = 5.0 Ratio of negative to total D's = 3/10						

The community may talk down the violent type programs (while actually viewing them), and place negative sanctions on people who admit that they watch it, but even though educational television is downgraded, there are probably no negative sanctions for watching

it, or if there are, they may not be so strong.

There is one notable exception in the Information-Educational category which is in need of explanation—the lower MRetv for the Huntley-Brinkley program. Just before the Huntley-Brinkley newscast, there is a local newscast. Each of these individual newscast last fifteen minutes. Since the ARB survey used fifteen minute intervals to rate programs, their rating is accurate for this broadcast as an individual program. The ETV study, on the other hand, used half-hour intervals in their ratings. This alone has no effect since the two programs are rated about the same. But to use half-hour units, it was necessary to combine the two programs and call it "News" in our program guide. The ambiguity of this situation may be at least a partial reason for the large difference here. There were four such arrangements at that half-hour, and the respondent may have just marked any one of them instead of the specific channel he watched.

The respondents haven't to rest comes when he reports his behavior with respect to variety type programs. He is safe from any conflict here; watching this sort of program is worth while. Here the program may be "good" or "bad," but not "good for you" or "bad for you." He is under pressure to report less violent content viewing than he actually does, he is not fearful that reporting the true number of Educational-Informational programs, and there is no stigma against stating what he really does with respect to variety shows. As a matter of fact, it seems that he overcompensates in this category because of the pressure of not really knowing what to report in the other

categories, and indicates slightly more viewing than he may actually do. This is begging the question, but it is just thrown in as a point of interest. Actually this may be taken as a "no difference" situation, but it is a fairly consistently positive direction of no difference.

Summary: We see from the data in Table 3 that there is a consistent under-reporting in the violence category. This, coupled with a relatively large standard distance, indicates that the underestimation is probably not due to chance alone. In the Educational-Informational category the differences are in both directions and the small standard distance indicates a chance variation. The overreporting and small standard distance in the variety category remains unexplained. We believe that the evidence cited substantiates both hypotheses: (1) That children control the TV set between three and six PM, and (2) That people were reluctant to tell us that they watched as much violent-content programs as they did. Figures for Educational-Informational and for Variety type programs were added for comparative purposes only.

As a result of this comparative analysis, it seems safe to conclude that a program guide based on memory as much as a week old is as accurate as a diary kept at the time a program was chosen. That this would be true even if children were to use the aided-recall Program guide seems certain.¹ There is also little question that

1. See Schramm, Wilbur, Jack Lyle, and Edwin B. Parker, Television in the Lives of our Children, Stanford, 1961, Appendix III, "The Problem of Estimating Viewing Time" in which the authors show that aided recall on the part of children and diaries kept by their parents are in remarkable agreement—both producing slightly higher estimates of total viewing time than an unsupervised diary kept by the child.

the educational sponsorship of the ETV study did have an affect
in reducing the reported number of violence oriented programs.
This is in line with the basic thesis of the report.